

ABSTRACT

Novel component devices for urine management systems including a novel collection device, a novel conveyance tube, and a novel storage container. The collection device, a novel male catheter, comprises a waterproof, thin-walled conduction tube surrounding the penis, having wettable internal walls and containing a spacing wick. At one end, the conduction tube is connected to, or surrounded by, an elastic compression tube that provides a uniform compressive force around the girth of the penis for attachment and liquid seal to said penis, and at the other end is attached to a fitting that connects to the conveyance tube. The elastic compression tube is radially expanded prior to donning and, when in place over the penis, is allowed to elastically retract, providing radial compression for comfortable, and leak-free fit and use. The conveyance tube, which carries urine from collector to storage container, contains a spacer throughout its length to prevent the tube lumen from being completely closed and sealed off by kinks or twists in the tube. Said tube may be a thin-wall flat tube that can conform to the body shape of the wearer, can expand in cross-section as flow rate increases, and can shrink and flatten as flow rate drops off. Urine is retained as immobilized material in a storage container that can be either replaced and disposed of or emptied and reused with cleaning as needed. The storage container's internal structure also provides a means for unique fluid transfer and retention capabilities. A system comprised entirely of said novel devices, serially and contiguously connected, forms a continuous liquid pathway that enables removal of residual pools of urine, as well as transport and storage of urine at locations that are gravitationally higher than the source.

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